**SUMMARY**

A concurrency bug in Eclipse

**DETAILS**

Some details can also be found at: <https://bugs.eclipse.org/bugs/show_bug.cgi?id=398515>

This bug is due to a data race.

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|  | Thread1 (worker thread) | Thread2 (main thread) |
| 1 | public void startup() {  IWorkbench workbench = PlatformUI.getWorkbench();  if(workbench != null) {  workbench.addWindowListener(this);  // initialize for already open windows  IWorkbenchWindow[] workbenchWindows = workbench.getWorkbenchWindows();  for (int i = 0; i < workbenchWindows.length; i++) {  windowOpened(workbenchWindows[i]);  }  }  ..  } | public WorkbenchWindow createWorkbenchWindow(int newWindowNumber) {  return new WorkbenchWindow(newWindowNumber);  } |
| 2 | public void windowOpened(IWorkbenchWindow window) {  if(fWindows.add(window)) {  window.getSelectionService().addSelectionListener(this);  }  } | private WWinPartService partService = new WWinPartService(this);  public WorkbenchWindow(int number) {  ..  }  }  });  initializeDefaultServices(); |
|  | Subsequent calls caused by ‘getSelectionService ()’ call | Subsequent calls caused by ‘new WWinPartService(this)’ |
|  | WWinPartService.java  ISelectionService getSelectionService() {  return selectionService;  } | WWinPartService.java  public WWinPartService(IWorkbenchWindow window) {  selectionService = new WindowSelectionService(window);  } |
|  | 0-lock | 0-lock |

**DESCRIPTION**

When the workbench first starts up, DebugUIPlugin.start() is called, which in turn calls LaunchingResourceManager.windowOpened(). The windowOpened() method depends on WorkbenchWindow.initializeDefaultServices() to have been called beforehand, so that the WorkbenchWindow's selectionService variable is initialized. However, **initializeDefaultServices()** is called in the Main thread, while a separate worker thread can run **windowOpened()**. Thus, there is a race condition between these two methods.

If windowOpened() is called before initializeDefaultServices(), an NPE occurs and the org.eclipse.debug.ui plugin does not get loaded properly, causing all Debug actions to break. This seems to happen only when creating a new workspace.